

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 1-7, 9-15, and 21 are in this application. Claims 1-2, 5, 10-14, and 21 have been amended. Claims 8 and 16-20 were previously cancelled.

The Examiner rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by Bayraktaroglu (U.S. Patent No. 5,496,755). The Examiner also rejected claims 10 and 21 under 35 U.S.C. §103(a) as being unpatentable over Bayraktaroglu in view of Gaul (U.S. Patent No. 5,814,889). For the reasons set forth below, applicant respectfully traverses these rejections.

Claim 1 has been amended and recites, in part,:

"the doped region having a first surface exposed by the opening in the wafer, a dopant concentration that is greater than the dopant concentration of the wafer, and lying spaced apart from and between the first surface and the second surface of the wafer."

Claim 1 has been otherwise amended to broaden the claim.

In rejecting the claims, the Examiner appears to point to n+ region 412 shown in FIG. 3i of Bayraktaroglu as constituting the doped region required by claim 1. The Bayraktaroglu reference, however, fails to teach or suggest a doped region where the doped region lies spaced apart from and between the first and second surfaces of the wafer as required by amended claim 1.

As shown in FIG. 3i of Bayraktaroglu, n+ region 412 does not lie spaced apart from and between the top and bottom surfaces of the wafer. Thus, n+ region 412 can not be read to be the doped region of claim 1. As a result, amended claim 1 is not anticipated by the Bayraktarogly reference.

With respect to claim 21, this claim, which depends from claim 1, has been amended to more broadly recite the step of "forming a layer of conductive material

in the opening to form a first conductive region that contacts the doped region.” Claim 2 has been similarly amended. Claim 21, however, was rejected on the basis that n+ region 412 shown in FIG. 3i of Bayraktaroglu can be read to be the doped region of the claims. As noted above, n+ region 412 can not be read to be the doped region of the claims. As a result, claim 21 is patentable over Bayraktaroglu in view of Gaul for the same reasons that claim 1 is not anticipated by Bayraktaroglu.

With respect to claim 10, this claim has been amended and recites, in part:

“the doped region having a first surface exposed by the opening in the wafer, a dopant concentration that is greater than the dopant concentration of the wafer, and a second surface substantially planar with the second surface of the wafer, the first surface of the doped region and the second surface of the wafer being roughly parallel.”

The Bayraktaroglu reference, however, fails to teach or suggest a doped region where the first surface of the doped region is roughly parallel to the second surface of the wafer as required by amended claim 10.

As shown in FIG. 3i of Bayraktaroglu, the etch forms and exposes the side walls of the n+ regions. The side walls, however, are not roughly parallel with the top surface, but instead are perpendicular. Thus, n+ region 412 can not be read to be the doped region of claim 10. As a result, amended claim 10 is patentable over Bayraktaroglu in view of Gaul.

The Examiner further objected to claims 2-7, 9, and 11-15, but indicated that these claims would be allowable if amended to be in independent form including all of the limitations of the base claim and any intervening claims. Because of the belief that claim 1 is patentable, claims 2-4, 6-7, and 9, which depend from claim 1, have not been amended.

Claims 5, 10, and 11-13 have been amended to be in independent form. Claims 5, 10, and 11-13 may not include all of the limitations from the base claim and any intervening claims. Claims 14-15 have not been amended to be in

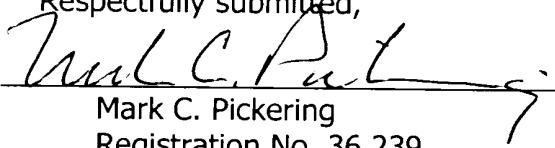
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independent form because claim 14 has been amended to depend from claim 13, and claim 15 currently depends from claim 14.

Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are respectively requested.

Dated: 11-7-03

Respectfully submitted,
By: 
Mark C. Pickering
Registration No. 36,239
Attorney for Assignee

30 Fifth Street, Suite 200
P.O. Box 300
Petaluma, CA 94953-0300
Telephone: (707) 762-5500
Facsimile: (707) 762-5504

Customer No. 33402